

Realizing the upgrading of high functionality and the expanding of protection functions

New IPD series for chopper power supply (MIP353/MIP355)

Overview

This is a new product with higher functionality comparing to existing MIP28X/MIP38X series. Using external variable terminals enables the over current protection and the oscillating frequency to change at three steps. Adding to an existing over heat protection, overload protecting function and over voltage latch function are built-in. PWM control while normal load and blocking oscillation of low drain peak current while light load enables to reduce the coil sound when light load. Application without photocouplers is also possible.

Feature

- Expanding the range of input/output
The flexibility of designing the power supply is improved by expansion of input/output range with three steps changeover of ILIMIT/oscillating frequency.
- High-efficiency and the reduction of coil sound
PWM control while normal load and blocking oscillation of low drain peak current while light load enables to reduce the power consumption when light load and achieves high-efficiency at total load field. Especially, lower the drain peak current reduces the coil sound level when light load.
- Lower the average noise
It is possible to reduce the average noise by frequency jitter function and simplify the EMI parts.
- Protecting function
Overload protection (timer intermittent), over voltage protection (stopping the latch), overheat protection (self reset)

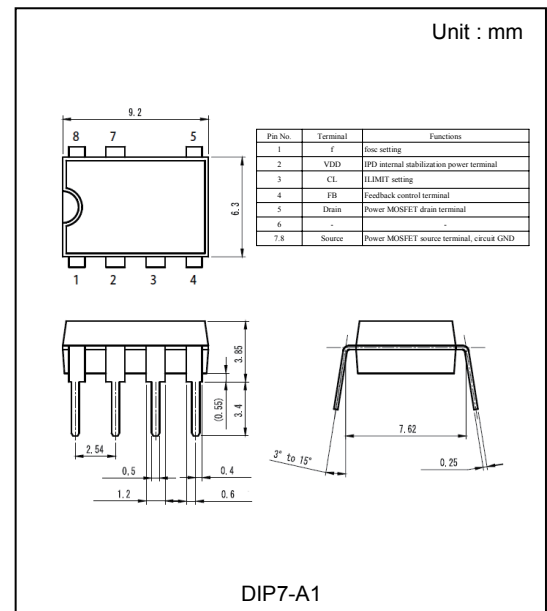
Applications

IH rice cooker, air conditioners, air purification system, dehumidifier, fan motor (for refrigerators) and washing machines

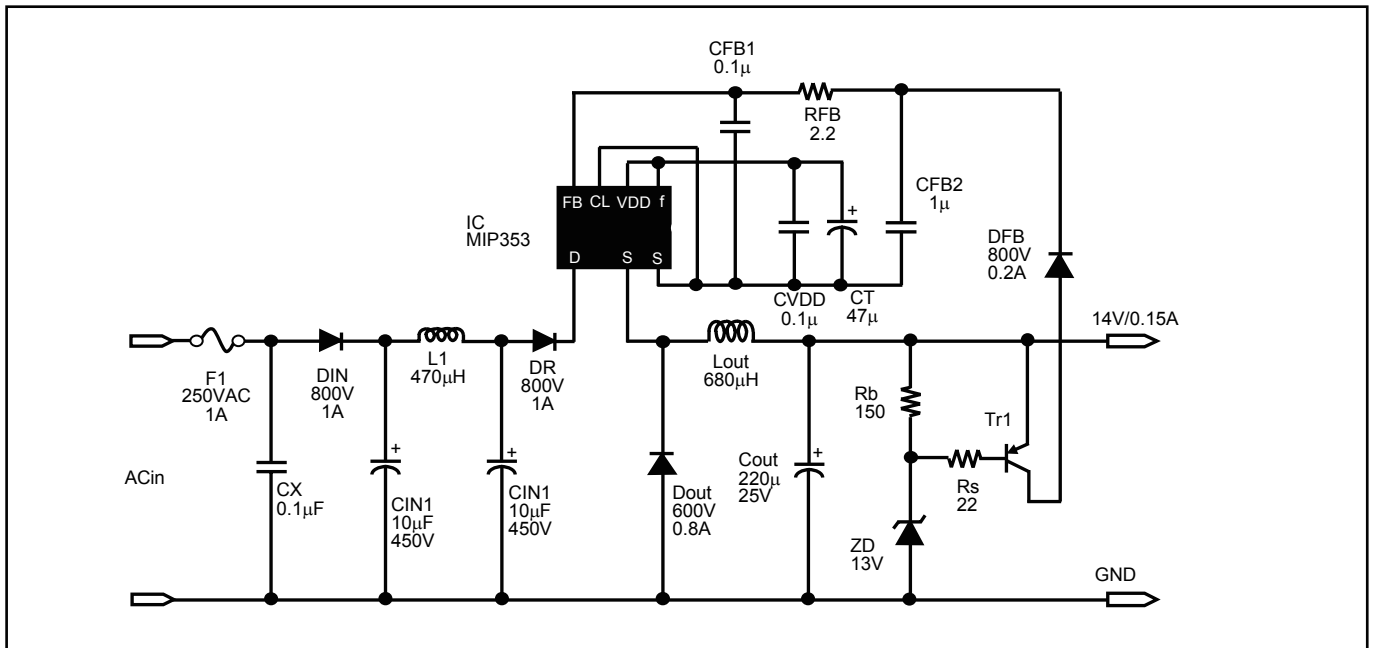
Lineup

Item	Output current *	Characteristics			
		VDSS	ILIMIT	Ron	fosc
MIP3530MS	Up to 200 mA	700V	0.29/0.4/0.5A	10Ω	24/43.5/64kHz
MIP3550MS	Up to 400 mA		0.58/0.8/1A	4.6Ω	

* The electric power mentioned above depends on the coil and transformer specification, input/output voltage conditions and ambient conditions. The information should be used only as a guide. ILIMIT value is changeable by externally.



■ Step-down converters



■ How to set ILIMIT and oscillating frequency

Changing settings by connecting f and CL terminals as follows:

- 1) Connect to S terminal
- 2) Connect a resistor (47kΩ*) between S terminal.
- 3) Connect to VDD terminal

* Use a resistor of tolerance $\pm 5\%$

	f	fosc	CL	ILIMIT
1	S	24kHz	S	1A
2	Resistor (47 kΩ)	64kHz	Resistor (47 kΩ)	0.8A
3	VDD	43.5kHz	VDD	0.58A

<MIP355 fosc and ILIMIT external variable setting chart>

■ Precautions on the Sales of IPDs

- 1) The sale and/or the export of IPD products to any customer or customers located in any country other than Japan is expressly prohibited by the Agreement made and executed by and between Power Integrations, Inc. and Panasonic Corporation.
- 2) IPD products purchased from our company, or its authorized agents, hereinafter referred to as our company, shall be used only for production purposes by those parties who have duly purchased IPD products. Those who have purchased IPD products shall not use such IPD products in unmodified form for re-sale, loan, or sample shipment for evaluation purposes to any other parties.
- 3) If a party who has duly purchased IPD products subcontracts its production to any other parties, including its subsidiaries or any other third parties inside and/or out of Japan, and the IPD products are consigned to such subcontracting parties thereat, such party is obligated to monitor and control the quantity of IPD products to prevent any of the aforementioned re-sale, loan or sample shipments from taking place.
- 4) In the event that any actual or threatened breach or violation of any of the above mentioned 1, 2, or 3, has occurred or is about to occur, our company will hold all shipments of IPD products and may request the party alleged to be responsible for such occurrence for necessary.

Item	Able to supply	Disable to supply	Application
MIP35□□	<ul style="list-style-type: none"> • Domestic Japanese companies • Japanese companies in Asia (50% or more owned) 	<ul style="list-style-type: none"> • European and American companies • Local Asian companies • Other local companies 	<ul style="list-style-type: none"> • For power supply